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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Harald Engler

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KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER

KILPATRICK, BRYAN T

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

04/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,478	Applicant(s) ENGLER ET AL.	
	Examiner BRYAN T. KILPATRICK	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 11-12, 15-18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 20030049858 (GOLDEN et al.).

In regards to instant claim 11, GOLDEN et al. discloses a method for controlling at least one operating variable of an electrolytic bath (Abstract), comprising:

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ascertaining a concentration of at least one bath component (paragraph [0021]); processing concentration values in a control device into control variables of a control element (paragraph [0021]-[0022]); and changing the operating variable by the control element in accordance with set point inputs (paragraph [0021]-[0022]); wherein the concentration is ascertained in the ascertaining step by withdrawing a sample from the bath, exciting the sample by electromagnetic radiation and analyzing a spectrum of light emitted by the sample. GOLDEN et al. discloses that light emitted from the sample is Raman scattered light in paragraph [0021].

However, GOLDEN et al. teaches in paragraph [0017] that Raman scattering analysis causes fluorescence of the solution during analysis, which can be observed over the scattering. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use fluorescence for the purpose of analyzing a sample. The motivation would have been because many compounds fluoresce and the fluorescence signal is more pronounced than the scattering signal (paragraph [0017]).

Instant claim 12 recites supplying a sample via a line to at least one sample container. GOLDEN et al. discloses a plating sample enters a sample subvolume through normal operating circulation of the bulk bath or via one or more pumps in paragraph [0050].

Instant claim 15 recites the sample is excited optically. Instant claim 16 recites the sample is excited optically by a laser beam. GOLDEN et al. teaches using laser light to cause electronic state transitions in paragraph [0017].

In regards to instant claim 17, GOLDEN et al. discloses a device for controlling at least one operating variable of at least one electrolytic bath (the system of the Abstract and paragraph [0020]), comprising: an arrangement adapted to ascertain a concentration of at least one bath component (paragraph [0020]); a setpoint adjustment device for the operating variable (paragraph [0022]); an open-loop and closed-loop control device connected to the arrangement and to the setpoint adjustment device (paragraphs [0019] and [0022]), the control device including a control element adapted to change the operating variable (paragraph [0022]); and a device adapted to transmit at least one sample of the bath to the arrangement (paragraph [0050]); wherein the arrangement includes a laser directed onto the sample and a spectral analysis device adapted for spectral analysis of light emitted by the sample (paragraphs [0017] and [0019]-[0020]).

Instant claim 18 recites a device adapted to transmit the at least one sample includes a pipeline system in an electroplating plant having several baths. GOLDEN et al. discloses a plating sample enters a sample subvolume through normal operating circulation of the bulk bath or via one or more pumps in paragraph [0050]

In regards to instant claim 21, GOLDEN et al. discloses a device for controlling at least one operating variable of at least one electrolytic bath (the system of the Abstract and paragraph [0020]), comprising: means for ascertaining a concentration of at least one bath component (paragraph [0020]); means for adjusting a setpoint of the operating variable (paragraphs [0019] and [0022]); open-loop and closed-loop control means connected to the ascertaining means and the adjusting means (paragraphs [0019] and [0022]); means for changing the operating variable (paragraph [0022]); and means for transmitting at least one sample of the bath to the ascertaining means (paragraph [0050]); wherein the ascertaining means includes laser means directed onto the sample and means for spectral analysis of light emitted by the sample (paragraphs [0017] and [0019]-[0020]).

Claims 13-14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 20030049858 (GOLDEN et al.) as applied to instant claim 11 above, and further in view of U.S. Patent 4778763 (MAKIGUCHI et al.).

Instant claim 13 recites successively filling a plurality of sample containers with sample, and then carrying the sample containers past a spectroscopic measurement device. Instant claim 14 recites supplying several samples onto a sample plate and carrying the samples past a spectroscopic measurement device by rotating the sample plate. GOLDEN et al discloses in paragraph [0050] that a plating solution sample to be

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analyzed enters a sample subvolume through normal operating circulation or via one or more pumps. GOLDEN et al. does not disclose filling a plurality of sample containers with sample, carrying the sample containers past a spectroscopic measurement device, or using a rotating sample plate with a spectroscopic measurement device.

However, MAKIGUCHI et al. discloses in the Abstract and Figure 1 a turntable holding a train of reaction containers for holding and moving samples for analysis via light irradiation and collection of light fluoresced by the sample. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the sample turntable of MAKIGUCHI et al. with the method of GOLDEN et al. for the purpose of observing sample fluorescence for analysis. The motivation would have been to analyze samples using fluorescence, and to conduct the analysis with little error by reducing the influence of background fluorescence (col. 2, lines 44-52 of MAKIGUCHI et al.).

Instant claim 19 recites at least one pipe having an intake end immersed into a corresponding one of the baths and an outlet end arranged at a rotatable sample plate that is partially located in a radiation range of the laser. Instant claim 20 recites a device adapted to remove analyzed samples from the sample plate. GOLDEN et al discloses in paragraph [0050] that a plating solution sample to be analyzed enters a sample subvolume through normal operating circulation of the bulk bath or via one or more pumps. MAKIGUCHI et al. discloses the use of dispensers (col. 3, lines 61-62

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and col. 4, line 23) for dispensing reagents and specimens on a turntable for spectral analysis (col. 3, lines 65-68).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 3676080 (RICHTERICH) discloses a device having a plurality of reaction vessels for automatically analyzing liquids (col. 1, lines 24-30) that can be used in electroplating (col. 4, line 20). U.S. Patent Application Publication 20040046121 (GOLDEN et al.) discloses a method and system for determining the presence of analytes in metal plating solutions in the Abstract. U.S. Patent Application Publication 20030049850 (GOLDEN) discloses a method for detection and quantifying analytes in metal plating bath solution using light analyzing techniques in the Abstract.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN T. KILPATRICK whose telephone number is (571)270-5553. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Samuel P Siefke/
Examiner, Art Unit 1797

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